



Going beyond basic tubing, hose, and fittings has been NewAge® Industries' commitment for years. In fact, many of our stock product lines began as special customer requests. We consider it a challenge to design and produce items that the competition won't even attempt.

One such special item is HOT BOND®, a process which thermally bonds two or more tubes of similar material into a uniform ribbon of tubing. A neat appearance, reduced complexity, and easier, less-costly installation are immediate benefits. HOT BOND tubing or hose can be formed into many configurations using various sizes and types of tubing and/or hose to meet your requirements. Color-coded tubing can provide easier maintenance by enhancing traceability.

ELECTRIC HOT BOND for bonding jacketed electrical wire or light

cable to tubing or hose for electro-pneumatic devices is also available. Your result is an easy-to-manage product with improved aesthetics, because ELECTRIC HOT BOND allows you to do away with cumbersome wire ties.

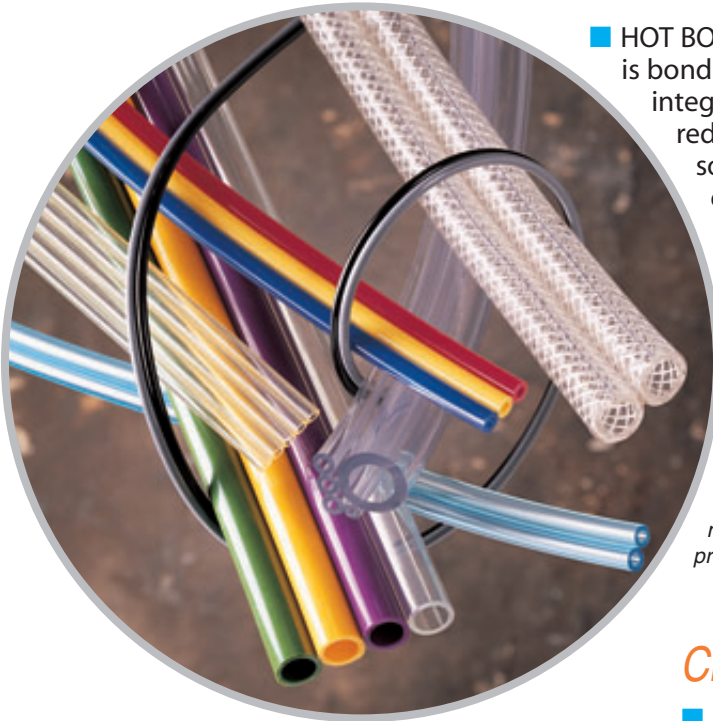
Heat-formed shapes are another area where NewAge Industries can help make your job easier. Tubing and hose can be fabricated into various shapes that you specify — curves, elbows, coils, flared ends. Don't settle for impromptu fixes and adjustments when you can have a part made that truly fits your needs.

Other NewAge Industries' custom capabilities include cutting-to-length, custom compounding for enhanced performance, overbraiding, jacketing, printing, special packaging, custom hose assemblies, and dip molded tubing. Contact your representative today with your application and specifications, and see how "standard" our custom services can be. ■

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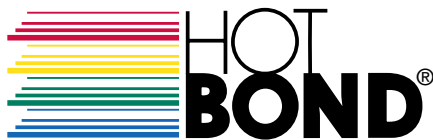
Thermally Bonded Tubing & Hose



- HOT BOND is a process by which thermoplastic tubing or hose is bonded together using a proprietary heat process into an integrated ribbon, offering the uncommon combination of reduced cost and improved aesthetics to your product. No solvents, which could migrate and cause contamination of adjoining surfaces or materials, are used in the bonding process.

The blend of the HOT BOND process and NewAge® Industries' vast tubing and hose inventory provides faster delivery at a lower cost than a typical custom extrusion. Prototyping is easy, and both long and short runs are equally cost effective and welcome.

Various sizes, quantities, and configurations make it easy to design HOT BOND into a new product or to retrofit an existing item.



Why HOT BOND?

- **Saves time and money on installation.** By eliminating the repetitive effort needed for multiple routing during installation, a savings of 50% or more can be realized.
- **A neat appearance.** HOT BOND visually shows your attention to design while enhancing the overall quality of your product.
- **Easier line traceability.** Quick troubleshooting translates into saved time and expense.
- **Saves space.** A ribbon of bonded tubing and hose is more exact in dimension than a bundle, permitting a more compact design.
- **HOT BOND** is available *only* from NewAge Industries, the Fluid Transfer Specialists®.

Choose Your Bond Strength

■ PERMANENT BOND

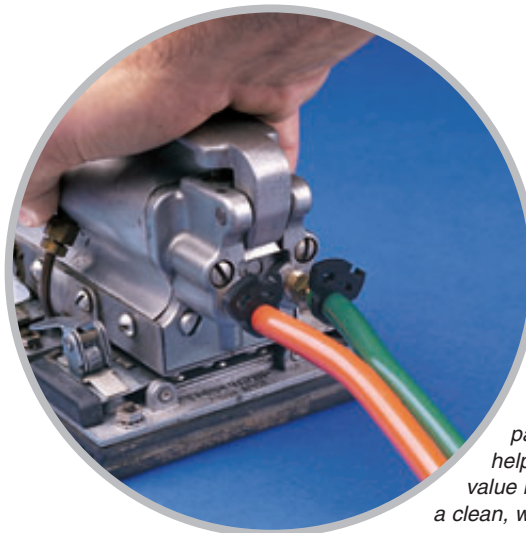
Offering maximum durability, permanently bonded tubing and hose will not separate without cutting tools (which should be used carefully to leave the tubing or hose wall undamaged).

■ STRIPPABLE BOND

Provides flexibility during installation by permitting separation of individual tubes from the ribbon for fitting purposes. Tools are typically not needed — simply twist the tubing or hose at the bond and peel back — a quick and easy process.

■ SKIP BOND

Lengths of bonded material alternate with unbonded sections at regular intervals that you specify. SKIP BOND results in clean-surface sections for easy fitting and/or clamp attachment.

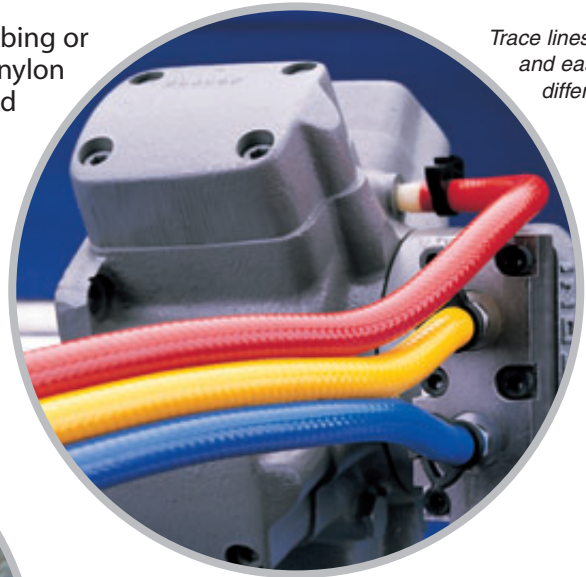


Reducing the cost of tubing and hose installations is only part of the story. HOT BOND helps to promote quality and value in your product by exhibiting a clean, well-organized look.

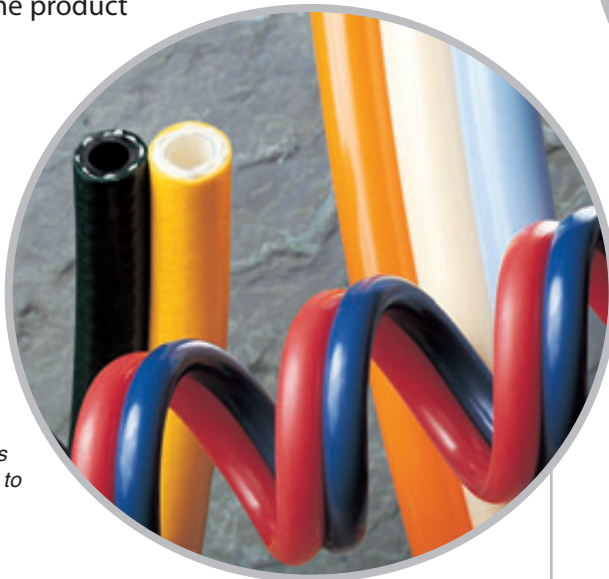
Thermally Bonded Tubing & Hose

■ The HOT BOND process can be applied to either stock tubing or hose or to custom extrusions of like materials (PVC to PVC, nylon to nylon, etc). NewAge® Industries can HOT BOND reinforced hose to unreinforced tubing, half inch to three quarter inch sizes, colored to clear — the choices are nearly endless. We can then cut, coil, strip back, or assemble as necessary. The final product can be finished as needed.

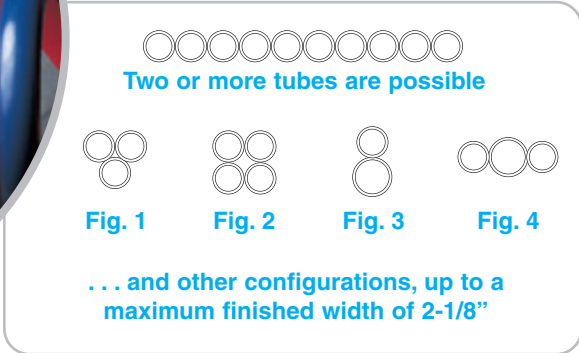
Below at right are some typical configurations to use as a reference. If you don't see what you need, call your representative to custom configure the product for you.



Trace lines quickly and easily with different colors.

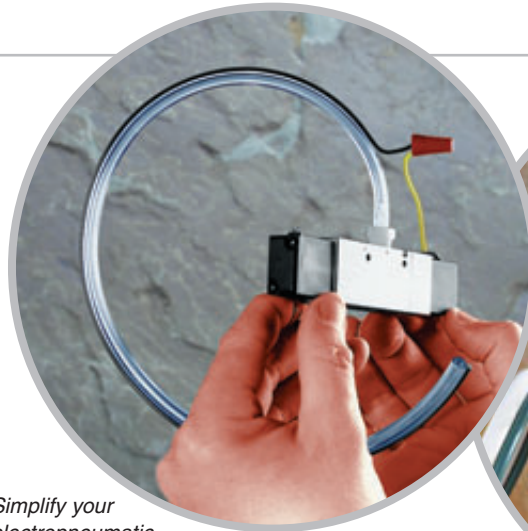


Twin, triple, coiled . . . HOT BOND is always made to your specs.



Electric HOT BOND®

NewAge Industries' fabrication engineers can HOT BOND your supplied electrical wire and light cable to tubing or hose to meet the needs of electropneumatic service. Standard PVC or fluoropolymer jacketed wires can be mated to tubing or hose of similar material to meet your requirements. Contact your representative for details and assistance.



Simplify your electropneumatic connections. A cleaner, easier-to-manage, faster installation will give your product the competitive edge.



Electrical lines, from jacketed light gauge wire to cable (customer supplied), can be bonded to tubing and hose of similar material.

Contact your NewAge Industries' representative to obtain a quotation for Hot Bond or Electric Hot Bond.

Tubing & Hose Custom Extruded to Specifications

- In addition to the stock tubing and hose products in this catalog, NewAge® Industries also offers extensive custom extrusion capabilities. Custom extrusions of tight tolerances, custom reinforcement, colors, in-line cutting, and special resin compounds can be created for your application.

Custom compounding permits designers to fine tune a plastic material to meet special performance requirements. By blending additives into the raw plastic material, we can enhance specific areas of plastic performance. Custom compounding adds value by providing a part specifically designed to meet your need — a part that can last longer and work better in your application.

We encourage you to contact your NewAge Industries sales representative between 8 am and 6 pm, eastern time, (Fridays until 5 pm) at 800-50-NEWAGE (fax 800-837-1856), and utilize their knowledge and experience to turn your design ideas into reality.

NewAge Industries can provide custom compounds offering ...

- Low Temperature Flexibility
- Improved Purity
- Resistance to Fungus Growth
- Improved Elasticity
- Resistance to Ozone Deterioration
- Anti-Static Properties
- Improved Dielectric Properties
- Improved Conductivity
- U.V. Stabilization
- Decrease of Tackiness
- Fuel and Oil Resistance
- Sterilizing Radiation

State-of-the-art extrusion equipment, like this PVC line, ensures top-quality tubing and hose. Regular maintenance checks and frequent equipment updates enable NewAge Industries to continuously improve our products and enhance our processes.

Resins and compounds can be combined or specially formulated to produce unique performance characteristics.



In-line cutting accomplishes two processes — the extrusion and your specific cut-to-length piece — at one time. That saves you time and cost. It also ensures that you receive a straight piece with no coil set.

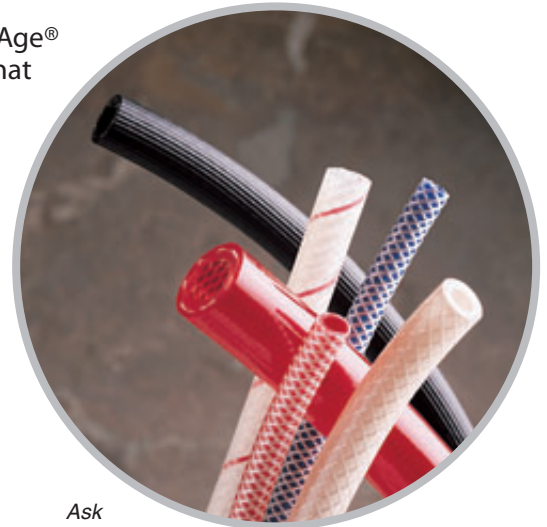


Tubing & Hose Custom Extruded to Specifications

■ Custom extrusions can be made from a wide variety of materials. NewAge® Industries will create custom tooling if necessary to give you a product that meets the specifications of your application.

In addition to the materials in this catalog, the following are available as custom extrusions ...

- | | |
|---------------------------------|----------------------------|
| ■ Clear, Rigid Materials | ■ Synthetic Rubbers |
| Acrylics Cellulosics | Buna-N Hytrel® |
| Polycarbonate CAB, CAP | Butyl Neoprene |
| ■ EVA (Varying percentages) | EPDM Polyisoprene |
| ■ Nylon 6 | Hypalon® SBR |
| ■ All Densities of Polyethylene | ■ Tefzel® |
| ■ Polystyrene | ■ Thermoplastic Elastomers |
| ■ PVDF | ■ Other Plastic Materials |

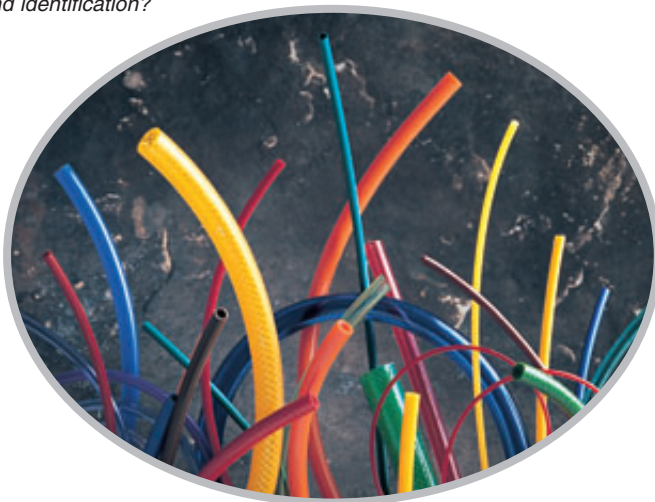


Ask about special O.D. treatments, such as ribbing for better hand gripping, longitudinal tracer lines, and specific color combinations. I.D. treatments are also available — call for details.

Services

- | | |
|-------------------------|---------------------------------|
| ■ In-Line Cutting | ■ Colors |
| ■ Co-Extrusions | ■ Striping |
| ■ Multi-Lumen Tubing | ■ Special Sizes and Tolerances |
| ■ Multi-Tube Extrusions | ■ Custom Packaging and Labeling |
| ■ Webbed Tubing | |

NewAge Industries can color match an extrusion to meet your need. Why not have us color your tubing, hose, or other custom extrusion to match your equipment or company colors for the ultimate in aesthetics and identification?

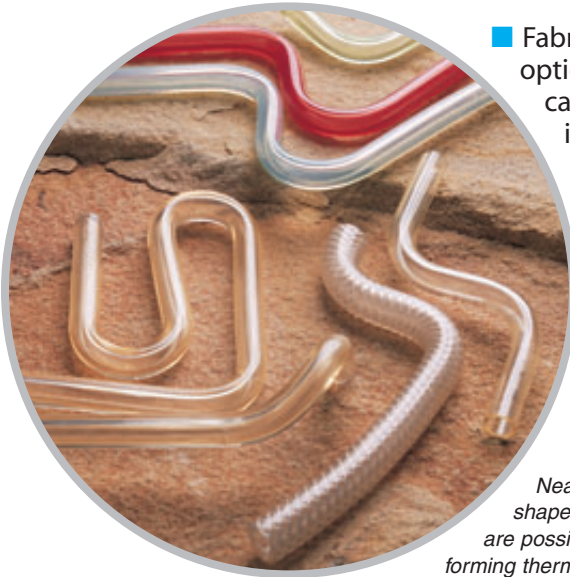


NewAge Industries' extrusion equipment features advanced computer technology that constantly monitors nearly 100 critical points along an extrusion line. This system enables the same top quality on runs requiring custom specs, such as exceptionally tight tolerances, reinforcing yarn coverage, and special colors.

Contact your NewAge Industries' representative to obtain a quotation for custom extrusions.

Custom-Fabricated Heat-Formed Tubing & Hose

- Fabricating tubing and hose into special shapes opens a range of options for custom-designed parts at a reasonable cost. Formed shapes can eliminate problems such as kinking, and they often make installations easier. By using heat and special tooling in a controlled environment, we can custom form thermoplastic tubing and hose into a variety of configurations. Supply NewAge® Industries with your blue print to see how we can manufacture shapes to match your application requirements.



Nearly unlimited shapes and designs are possible by heat forming thermoplastic tubing and hose, so why not get exactly what you need?

What shape do you need?

The fixture needed to heat form your part may already exist. Ask about it!



Use elbows with twists, flared ends, even curves in bonded tubing and hose (see page 2) to exactly fit your application.

Even short, simple pieces with a single elbow can improve your product. There's no loose tubing to get in the way.



Custom-Fabricated Heat-Formed Tubing & Hose

■ NewAge® Industries possesses the capabilities and experience to quickly produce and deliver your part by using stock products as a base for the custom item. Possible shapes include ...

- Flared Ends
- Twists
- Elbows
- Curves
- Double and Triple Bends
- Retractable coils (see page 8)

Flared ends allow for the proper fit around existing equipment or special fittings. As you can see, the possibilities are numerous.



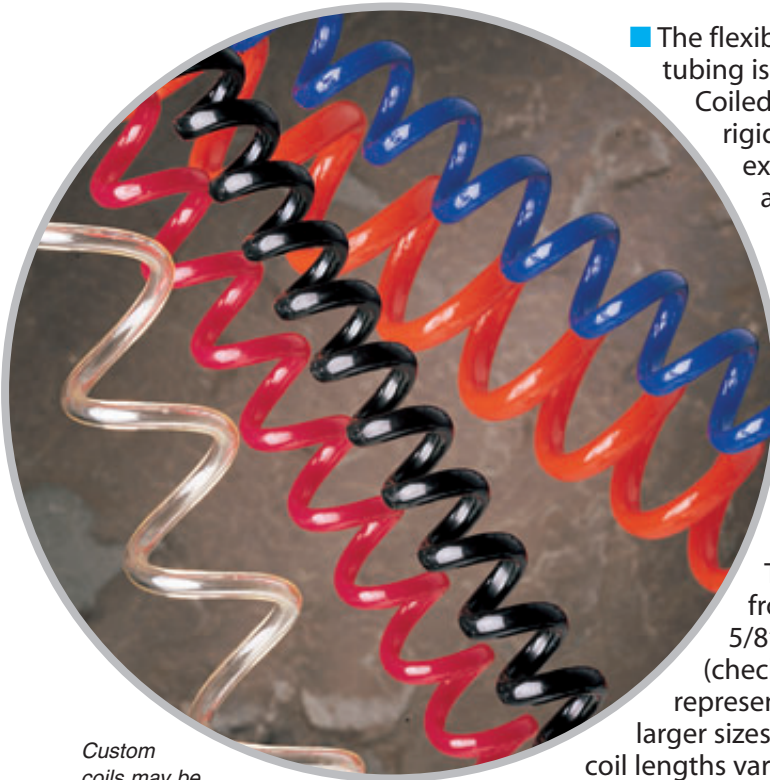
Your sales representative can assist you with your design, then manage the manufacture and delivery for you.

Shapes are heat formed by skilled team members using dedicated equipment and tried-and-true techniques. Put our experience to work for you.



Contact your NewAge Industries' representative to obtain a quotation for heat-formed shapes.

Nylon & Polyurethane



Custom coils may be used for shop air supply, instrumentation, robotics, fluid transfer, paint spray, processing and packaging equipment, laboratories, food and beverage, pneumatic tools, vacuum powered equipment, and more. What material, length, I.D., O.D., color, and performance do you need?

- The flexibility to pull, twist, stretch, or bend a section of tubing is often a must in many manufacturing processes. Coiled tubing can be the solution. By taking flexible, semi-rigid, or rigid material and wrapping it into a coil, extraordinary flexibility can be achieved. Coiled tubing and hose is used in industries such as food and beverage, robotics, laboratories, and as supply lines for air and various fluids.

Both coiled nylon and polyurethane offer resistance to chemicals, oils, and greases. Nylon also works well for solvents and alkalis, and it offers a very low degree of moisture absorption. Polyurethane handles fuels and the effects of weather and provides extra protection against kinking and abrasion.*

Tubing I.D. sizes ranging from 1/16" through 5/8" can be coiled (check with your sales representative about larger sizes). Extended coil lengths vary. They can be as short as 6 feet or as long as 25 feet — just tell us what you need.

Standard coils of fluoropolymer tubing can be found in our Fluoropolymer product catalog. Fluoropolymer tubing may also be custom coiled to your required needs — call for details.

*Field testing should be performed to determine suitability for your application.



Customization can include double coiled lines and a variety of sizes and colors in either nylon or polyurethane.



Clear or translucent custom coils allow fluids to be viewed. Take the guesswork out of making sure liquids are moving properly towards their destination.

NewAge Industries can supply coils complete with removable or permanently-attached fittings. Save yourself time and labor costs by having a finished part shipped to you.



Contact your NewAge Industries' representative to obtain a quotation for custom coiling

Cutting, Printing, Striping, Packaging, Slitting, More

■ What really sets NewAge® Industries apart from other manufacturers is our ability and willingness to offer various services to create a custom part from stock material. This benefits you in two ways — fast delivery and low cost.

Repetitive cutting can provide you with ten pieces that are ten feet long or millions of pieces 1/8" long — whatever you need. NewAge Industries can efficiently and cleanly cut the product to your specifications.

Printing and striping can tailor the look of your company's product. We can provide permanently-printed material with your logo, part number, size information, date code, or other information that you specify. Printed products can reinforce and enhance your company identity, create product traceability, or identify capabilities or limitations of the item, all at a reasonable cost.



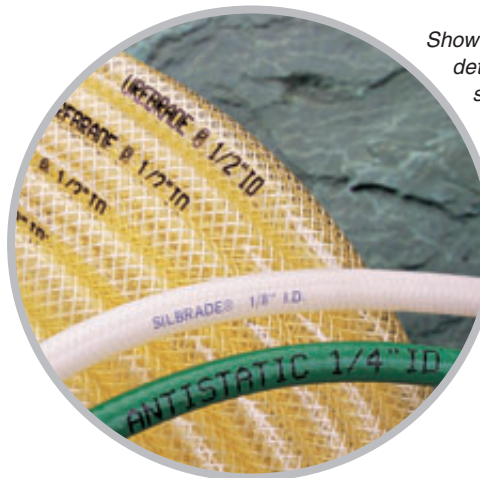
How many pieces do you need? How long? Repetitive cutting to tight tolerances is just one of NewAge Industries' fabrication services.

Other Fabrication Services

- Hole Punching
- Slitting
- Irradiating
- Sleeving for high temperature or wear protection
- Bonding (page 2)
- Heat-formed shapes (page 6)
- Coiling (page 8)
- Assembling (page 11)
- Packaging



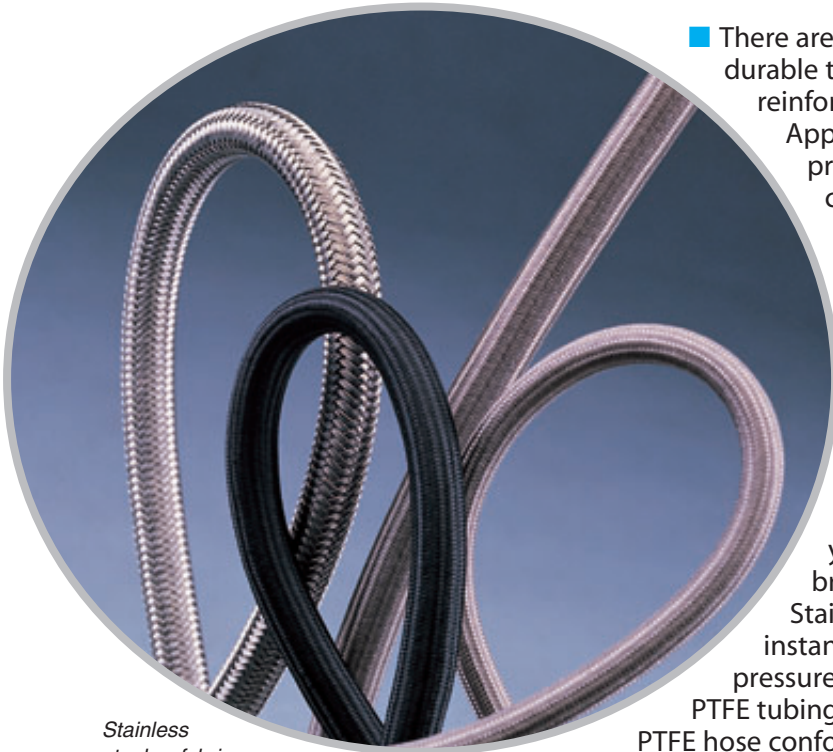
Custom packaging is another option. Your order can be cut to length, coiled, and boxed to your requirements.



Show your attention to detail. Trademarks, sizes, special capabilities, and more can be printed for permanent identification.

Contact your NewAge Industries' representative to obtain a quotation for fabrication services.

For Increased Capabilities, Protection, Kink Resistance



Stainless steel or fabric overbraiding allows increased pressure capabilities for both reinforced hose and unreinforced tubing. Multiple layers are also possible.

■ There are times when applications require a more durable tubing or hose product than standard reinforced or unreinforced stock material.

Applications may present high temperatures or pressures, excessive friction, attack by chemicals or corrosives, kink or crush possibilities, or other parameters that need a special hose. Perhaps you need to bundle multiple tubes of dissimilar material, or require electrical conductivity or grounding, or simply choose to alter the aesthetics of your product.

NewAge® Industries is prepared to provide you with custom overbraiding and/or jacketing, uniquely suited to meet your application's requirements. We offer a broad mix of materials at a reasonable cost.

Stainless steel overbraided PTFE hose, for instance, can handle up to 3000 psi working pressure* — more than 20 times that of standard PTFE tubing. Straight walled, stainless steel overbraided PTFE hose conforms to SAE 100R14 standards. NewAge Industries stocks straight walled material in sizes ranging from 3/16" I.D. to 1-1/4" I.D.; ask about custom sizes.

In addition to stainless steel and fabric coverings, such as nylon and polyester, the following materials are available:

- Brass
- Bronze
- Carbon steel
- Copper
- Kevlar®
- Nomex®
- Other fabrics
- Most thermoplastic materials

*A permanent fitting must be installed for use in high pressure applications. The listed pressure is meant only as a guide to aid in design. Field testing should be performed to determine the actual value for the application.



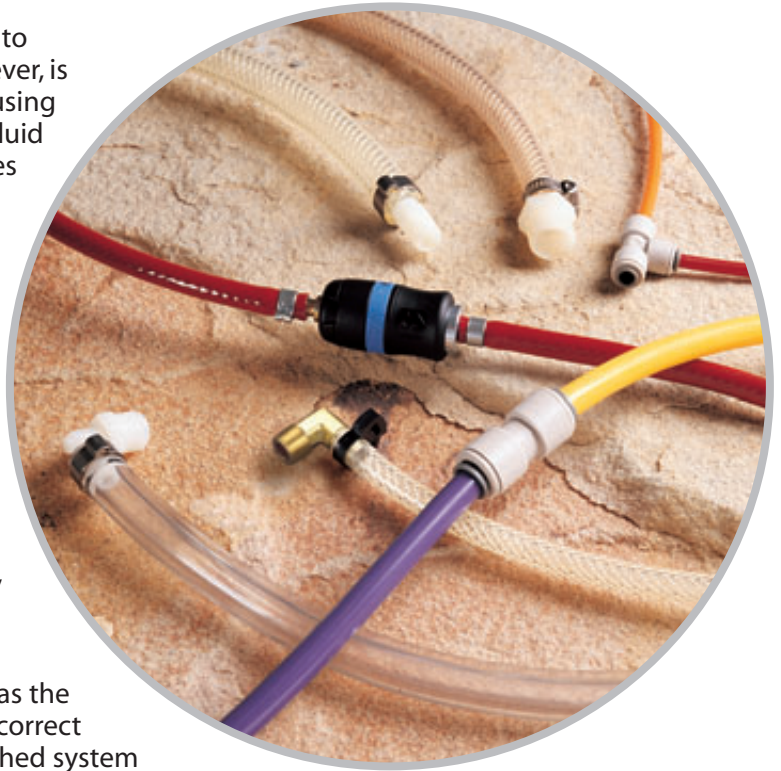
Colored fabrics give you several advantages — easy run traceability, increased pressure usage, and extra protection against heat, abrasion, and kinking.

Contact your NewAge Industries' representative to obtain a quotation for overbraiding or jacketing.

■ The final step in creating a functional hose is to assemble the components. This basic fact, however, is often overlooked in the purchasing process, causing delays and added expense. Why not allow the Fluid Transfer Specialists® to save you from the hassles by assembling the components for you?

NewAge® Industries' expert fabrication team is prepared to assemble any mix of components into a finished assembly. From an item as simple as Nylobrade® hose with a Thermobarb® fitting and a hose clamp, to a custom overbraided PTFE hose with a heat-shielding sleeve and a permanent, crimp-type fitting, we can assure you that the job is done correctly and cost effectively. We employ SPC (Statistical Process Control) procedures to ensure the best quality assembly and, if desired, we can perform 100% leak testing.

Industrial stainless steel, carbon steel, sanitary polished stainless steel — NewAge Industries has the materials and ability to permanently crimp the correct fitting for your application. Don't risk a mismatched system or misapplied fitting. Order your hose with fittings permanently attached to ensure a durable, leak-proof connection.



By combining our broad line of tubing, hose, fittings, and clamps, the optimum hose assembly for your application can be fabricated quickly.



Finished assemblies with permanently-attached stainless steel fittings are available. Let NewAge Industries handle the assembly labor for you, so you receive a finished, ready-to-install product. Contact your sales rep for details.

Contact your NewAge Industries' representative to obtain a quotation for hose assemblies.

Custom Molded Tubing & Assemblies



Dip molding can eliminate the need for fittings and clamps, as well as leak potential.

- Dip Molded Tubing provides flexibility in both design and the finished product. The PVC-based material is versatile and offers flexibility, antimicrobial additives for various grades (FDA, 3A, NSF, and UL), and the availability of Pantone colors to match or differentiate from other equipment.

Several Shore A durometer hardnesses are offered. The technical specifications, chemical resistance, and pressure capabilities of Dip Molded Tubing are equal to those of PVC material at the same hardness value.

Each part is custom engineered and manufactured to best meet an application's requirements. Typical uses include manifolds, dispensing equipment, fluid delivery and mixing systems, appliances, general air or fluid transfer, supply and drain lines, and more.

Advantages

- Dip molded method for consistent interior dimensions and even flow
- Offers unimpeded fluid or air flow for better performance – no connections to obstruct flow
- Stops leaks by eliminating typical tubing and fitting connections
- Improves aesthetics – one molded part instead of multiple tubing and fitting connections held together by clamps
- Addresses labor assembly costs and time
- Only one part to be inventoried instead of tubing, fittings, and clamps
- Saves space in tight areas
- Variety of grades available – FDA, 3A, NSF, UL
- Designs can range from simple to complex
- Can reduce the overall weight of assemblies

Contact your NewAge Industries' representative to obtain a quotation for dip molded tubing.

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